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Vol. XIII, No. 16. August 3, 1916

THE JOURNAL OF PHILOSOPHY
PSYCHOLOGY AND SCIENTIFIC METHODS

PHILOSOPHY AND THE WORLD'S PEACE

I

THE first prerequisite of a test of progress is to know in what progress consists.

In general, to progress would appear to be to come closer to one's goal in life. Decades ago the economic school of Bentham and Mill proclaimed anew the ancient principle that the true goal of social activity is the "greatest happiness of the greatest number" of human individuals. More students of theory, and more followers of practise, have agreed on this formula than on any other of its kind; yet the year of our Lord 1916 sees the people of eleven of the world's principal nations devoting unparalleled energies to a task the outcome of which is a reduction of their mutual happiness more rapidly and permanently than would be possible by any other method.

However, the difference between war and peace is not so great as it seems to the man who, in a prosperous mood, reads the story of the merciless torpedoing of a great ship, or the machine-controlled slaughter of troops on the field of battle. The fruits of years of thoughtful toil, of loving care, are destroyed in one horrible moment, but still, men would not so readily accept chances of death in the trenches if all of the places of peace were filled with sunshine and glory. The peace of nations is not the peace of individuals, and peace between individuals is not that peace of mind which "passeth understanding."

He who covets the millennium must be patient. Biology teaches us that human life is an experiment, one of nature's researches. Nothing is so slow as the progress of the researcher, and no worker is more clumsy, if at the same time more persistent, than nature. The *élan vital* has tried many paths of advance which proved to be *culs-de-sac*, and for which the existing evidences consist only of bones and traces in the rocks. It is a matter of some billions of years since the first microscopic specks of life appeared in the warm, and omnipresent, seas. It is a matter of millions since life first crept to land. It is a matter of only a few thousand years since it first tried the experiment of being human, of getting along principally by

means of brains. What if this latest, and so recently started, experiment of nature's should fail? What if brains should prove inadequate, and we creatures of nerves and weak tissues should be mastered, and reduced to geological traces, by the unintelligent forces which we attempt to control?

We perceive that the lives of individuals are often utter wrecks; we see that whole nations, and groups of nations, collapse and decay; we witness the extinction of anthropologically distinct classes of humanity. But that the total species of mankind, human life in its entirety, with its versatility, its outlook upon nature, and its projects for the future, should be wiped out, it is almost impossible for us to conceive. Yet this conviction of the stability of the species may be merely an obsessing idea, due principally to our inability to think in terms of large units of time.

Astronomers say that, even if we assume our knowledge of the laws of gravitation and of motion to be adequate, the continued existence of the earth as a place of habitation can be absolutely guaranteed for a period of only a few years in advance. At any moment a plunging "dark star" may appear in the outskirts of the solar system, and before it has finished, may completely wreck what we regard as the perennially established order of things. Or, again, suppose that some sudden mutation should produce a bacterial poison against which the immunizing powers of the human body could not prevail. For a *Foraminiferan* or a *Teleost* fish to maintain that his kind would always be represented on the earth would not partake so much of audacious boastfulness, for the life of their species is measured in millions of years, not in a few thousand.

More threatening in its outcome for the race than the appearance of a new and deadly contagious disease is the danger from a possible emotional instability in the constitution of man himself. The unique attribute of the human nervous system, the characteristic which has caused the race to make such a flare in the world, is just its instability of reaction, its capacity for being moved by weak and small and distant stimuli. The automatism of instinct has been replaced by intelligence. It is his ability to adapt himself to details, to have his whole system of behavior modified by experience, and even by the symbolic representations of experience in the form of language, which has made it possible for man to master the rest of nature as he has. But can he master himself? His sensitive nerve structures are made over from lower animal forms, and intelligence is still only a tenuous infiltration among instinctive tendencies which, given an adequate stimulus, may be aroused to a power which no intelligence can resist, and to which it must become humbly subservient or perish.

In biology, success means the ability to exist, and progress stands for the development of more and longer existence. The dominant instinctive mechanisms of all organic species are those of self and race preservation. Thus it is the same, primitively, with man. Hunger, lust, fear, anger, and their derivatives, can arise within him, paralyze and usurp the functions of his intelligence, and leave him, in the end, perhaps physically, perhaps mentally, perhaps socially ruined. If this can happen to an individual, it can happen even more readily and completely to a group of individuals, such as form a nation. The "psychology of the crowd" is that of the brute and of the child.

The most prominent individual participants in the present welter in Europe admit that no intelligent justification for the war can be found. The attempts at intelligent justification which have been offered are, in nearly every case, transparent excuses. It was fear which sent the Austrian ultimatum to Serbia; it was anger which mobilized the Russian army; it was hunger which welded Germany to Austria, and which turned Italy against her; it was fear and anger which accomplished the "rape of Belgium."

Although we have still to arrive at an exact definition of progress, biology alone is sufficient justification for the statement that the killing and maiming of millions of men, and the wholesale destruction of the instruments of human living, are not progress. Death, as it is involved in the elimination of the unfit, is perhaps one factor in evolution; but it is now a truism that war systematically destroys the fit and permits the unfit to survive.

The destructive power of instincts whose biological purpose is to preserve the individual and the species, obviously springs from the fact that the preservation of one species often demands the annihilation of another. However, conditions may develop under which every outbreak of these destructive instincts injures both participants in the conflict. This is obviously the case when the conflicting units are mutually dependent parts of a more or less organic whole, such as human society, or when they are very accurately matched. The present struggle in Europe appears to involve both of these situations. The disintegration of commerce and science, which has occurred on account of the war, has left all of the nations involved worse off than they were before, and, besides this, the fighting groups are so evenly matched that in spite of tremendous losses, no decisive battles are fought. We can imagine this process of social decomposition, and the dribbling away of life, going on until it has broken society up into feudal units, each of which is poverty-stricken, but remains able to manufacture enough supplies of war to continue

taking toll of the lives of its enemies.[1] The end of such a process as this might well be the end of humanity, for it is through co-operation and social organization alone that man can hope permanently to dominate the earth.

What would be the cause and excuse of such a disaster as this? Certainly, nothing on the side of intelligence, but only the collapse of intelligence under a storm of instinctive emotions, which, once started, would gather mass and momentum like the snowball which rolls down a hillside. None of us believes that any such calamity as this is going to befall humanity, but it is highly desirable that we find some reason, other than general optimism, for rejecting the possibility. Two years ago none of us would have believed that within a year ten of the foremost nations of the world would be engaged in the most beastly war of history.

II

The lapse of human action into the crudely instinctive type when, as is generally the case in society, intelligent behavior is demanded instead, has long been condemned by an institution whose sole function in society lies in the issuance of these condemnations, namely, the *church*. Religion classifies such lapses under the category of "Sin," and it seeks to correct them by the promulgation of a doctrine of metaphysics. The *state* limits their occurrence in the individual by creating situations in which the instincts are turned against each other. It sets fear against anger and lust; it sets hunger against sleepiness; and it titillates the ego in return for self-control and self-sacrifice. But there is no world state and no world religion to chasten the behavior of nations. Each has a God of its own, who hates other nations, insures the welfare of his own people, and condones whatever may, to their enemies, seem misdeeds.

During nearly two thousand years multitudes of intelligent people have looked hopefully to the teachings of Jesus Christ and his Apostles to furnish the world with a universal religion. In the story of his guileless life and miraculous deeds they seemed to catch a glimpse of a supernal attractiveness which must eventually draw all men to him. The Christ story is that of a man utterly controlled by an exalted purpose, exalted in the sense that it spurned every crude instinctive tendency. No sincere man, who loves his fellows and is enthusiastic for human life, can fail to respect this rare character, when it is beheld, not as an idol, but as a concrete human career.

Moreover, it can not be denied that Christian and Hebrew teach-

[1] Such a state of affairs, resulting from a world struggle like the present one, is graphically depicted in Mr. H. G. Wells's "The War in the Air."

ings have made a valuable contribution to human thought and progress. That this contribution has been to any important degree decisive or determinative may easily be doubted, but more easily since the outbreak of Europe's "international lunacy"[2] than before. Lately, we often hear the question: Is Christianity a failure? In answer, we can only say that we do not know, but it is certain that its practical success has been disappointingly small, considering its nearly two thousand years of activity. The world was not much more of a moral chaos when Christianity appeared than it is now. What we have achieved of system has been largely physical.

The principal difference between 500 B.C. and A.D. 1916 lies in the consequences of an unimpeded study of nature. It is the ideas latent in the thought of Copernicus, Leibnitz, Gutenberg, Watt, and Faraday which have changed the world, scattered and amalgamated races, liberated man from his slavery to the soil, and built up the tremendous and now sadly threatened structure called "business."

Christianity can not even claim the credit of having given man's mind the intellectual freedom required for the prosecution of scientific studies. The stimulus to modern science comes from the open-minded Greeks, whose culture was suppressed by the church, when Rome became Christian, and remained in the hands of Mohammedans until the Renaissance. Moreover, the church has fought to the finish every development of science, such as the Copernican theory or the doctrine of evolution, which has appeared to have moral corollaries.

Greek culture possessed the germs of physical and moral stability. These germs never came to fruition, and Greek culture disappeared in an internecine outburst of primitive passions, because there was nothing to compel the Hellenes to believe in the truths which their philosophers enunciated. Is this failure to be reduplicated in the case of the Christianized world which has as yet a history not so long as that of the Hellenic? Christianity is more compelling than Platonism, it must be admitted, and yet its power over human behavior seems to be inversely proportional to the degree of sophistication of the individual concerned; its strongest influence is with the simple-minded, the untutored "heathen," and the born mystic. The percentage of advanced students of science who accept the Christian system is vanishingly small; the number of business and professional men who adopt it, not merely as a verbal creed, but as a vital guide of behavior, is also inconsiderable.

We record these facts only in a mood of disappointment. Christianity has promised to save the world, and it contains within it prin-

[2] Mr. Peter Witt, of Cleveland, must be given the credit belonging to the invention of this highly descriptive phrase.

ciples which, if applied, would accomplish a great deal towards that end. Moreover, the promise was sincerely made. If the Christian system is losing its grip on individual minds, if, as appears to be the case, it has entirely lost its hold on the nations of Europe, what is to be the final result? This is a practical question. History and anthropology show that some sort of religion is an invariable accompaniment of social life. This means that religion has a necessary function, and that without it society will die. In an uninspired society, technical science becomes the slave of group instincts and, in the end, may be chiefly occupied, as it is in the countries of Europe to-day, in the production of the most effective instruments of death and mutilation.

We have taken Christianity as our text because it is the religion of our people and of the most enlightened and successful people. The non-Christian religions still claim sixty-five per cent. of the world's inhabitants. They probably grip their followers more firmly than does Christianity, but their claim to success as instruments of progress must be accounted almost negligible.

III

Here, again, we find ourselves faced by the question of the meaning of the word "progress," which we seem forced to employ in our evaluation of human events. Progress is something which we believe in and experience before we know what it is, and the problem as to its nature is one of fact rather than of mere verbal definition.

When we come to analyze the facts which we call progress, we are tempted to lay great emphasis upon the achievement of individual happiness; but the matter goes deeper than this. Progress for the individual consists in the attainment of the things which he desires, of the things he strives for. This process is slow and statistical, that is, one progresses or retrogresses "on the average." If I waylay my neighbor and get his bank-roll I progress for the time and with respect to one motive, but after I have been caught and imprisoned for a term of years the whole affair appears to be retrogressive, even from my point of view alone. On the whole, my desires have been thwarted.

The factors entering into my progress thus include those which are involved in the progress of other human beings in the community in which I live. There are factors beyond the social and the human, moreover, such as the climate, the astronomic relation of the earth to the sun, the laws of gravitation and of centrifugal force, and so on. But, more important still, is my own constitution, my system of interests and capacities, my native endowment and my education. This, in turn, depends upon, and in fact is merely a

stage in, the progress made by my forefathers, by my country, my race, my species, by the order of primates, the class of mammals, the family of vertebrates, and by life on the earth. But since science teaches that the non-living and the living are continuous with each other, I must say that my progress is one link in a long chain which takes us back not only to bare primitive protoplasm, but to the chemical development of the world of substance, and to the synthesis of the elements themselves.

In other words, to define progress in its fullest sense, we must say that it consists in a certain movement or directioning of events in the universe, which is exemplified, in one of its stages or phases, by what we call the attainment of happiness. It is a cosmic change closely connected with the processes of evolution and development in the biological sphere. Our own advance, so far as we make any, is part and parcel of this world movement, and must ultimately be measured by it rather than furnish the measure for it.

This sounds more like the statement of a religious faith, than a definition. There is an excellent reason for the impression, but it need not weaken the logical force of the assertions. We can limit the word "progress" if we like, but if we take it in its broadest possible sense it is certainly not a matter of single individuals, single species, single times, or single forms of matter. It is a tendency in things, a set of causes moving slowly in a direction which we call forward. Thus defined, the conception furnishes us with a stimulating problem and one which, I believe, constitutes the fundamental problem of *philosophy*.

Philosophy and religion have always been intimately related; the reason for this lies in the fact that the former is often a refined and critical edition of the latter. Philosophy and science are also closely affiliated, in such a way that philosophy often appears to be a generalized and speculative form of science. However, philosophy has not seldom found itself at odds with religion and also with science, because it has attempted to correct both.

In the time of the Greeks philosophy stood for the sum-total of supposedly critical and accurate knowledge, together with the methods of obtaining such knowledge. At this period the methods were almost wholly *speculative* in character. As the effort to obtain exact knowledge has advanced, free speculation has been at least partially replaced by more reliable methods, and wherever this has occurred the department of knowledge concerned has been divorced from philosophy proper and set up as an independent *science*.[3] The

[3] This historic course of events is discussed, with characteristic suggestfulness, by William James in his posthumous volume, "Some Problems of Philosophy," Ch. I.

result is that, at any time, the residuum, to which the method of free speculation alone appears to be applicable, is all that remains to philosophy. It is natural, therefore, that philosophy should fall into disrepute.

One criterion of success in the effort to obtain knowledge is the agreement of authorities. The complete failure, in this respect, of the purely speculative undertakings of human thought leads one to declare that the word "knowledge" should not be applied to their results. At the present time logic and psychology are not generally regarded as branches of philosophy, although they are included in the philosophic curriculum. The eminently philosophic "disciplines" are metaphysics (ontology), epistemology, and ethics, all of which are in an extremely backward state, and concerning the contents of the first of which—the most fundamental—hardly two philosophers can be found to agree. The facts force us to say that either the subjects considered by these three disciplines are unamenable to a method not solely speculative, or that they are not possible branches of knowledge and should be abolished. This being the case, the term philosophy loses its meaning and may be redefined.

The suggestion which I desire to make is that we return to the usage of the Greeks, and employ the word *philosophy* to designate *all general knowledge.* By general knowledge is meant knowledge which applies to all cases of a single kind, which consists of laws and principles, and is to be contrasted with *history,* which is the enumerative description of individual things and happenings. History, in the widest sense, furnishes the *data* for philosophy.

This redefinition of the term philosophy, however, is to be made with certain restrictions or implications. In the first place, it is made on the supposition that *the sum-total of all knowledge will form an organic whole,* in which epistemology, psychology, physical science, metaphysics, and ethics appear as closely interrelated, and to a certain degree interdependent parts. Secondly, it is supposed that each of the parts of philosophy rests to some extent, science as well as metaphysics, upon speculative "postulates," which, in fact, determine the non-speculative methods of work of the disciplines in question.

It may be objected that to define philosophy with such implications as this is to lay the entire system open to doubt, by making it speculative at the start; it is to found the conception of the whole structure of knowledge upon faith. The answer to this is that critical analysis will show that the second of the "suppositions" which we have mentioned is really a plain statement of fact, and that to accept it is merely to be frank with regard to the foundations of all knowledge, physical as well as metaphysical. It can be shown that

every valued form of knowledge rests upon certain pure acts of faith. In this way the system of philosophy, as we have defined it, has a characteristic in common with religion.

The first "supposition," that of the ultimate unity of all forms of knowledge, is one which, also, may finally be proven or disproven, as knowledge develops. In so far as the system of knowledge remains incomplete, however, in so far does this assumption lack justification, and to the same extent is our belief in it a matter of religious faith. It is this belief, however, which will urge the scientist and philosopher on in his tireless study of the details of things without which, even supposing his faith to be valid, that validity could never be demonstrated. However, if the faith is indeed valid, it should be possible, even in a relatively undeveloped state of the system of knowledge, to find some evidences for its unity, and hence to find them now.

Christianity and all of the world religions have a fatal and inevitable weakness. It consists in their lack of respect for knowledge. This lack of respect they exhibit in two ways, first, by assuming that nearly all ethically useful knowledge is compressed in their own creeds and, second, by supposing that any knowledge short of all knowledge can furnish a perfect solution of any practical problem. The weakness which accrues to our religions on account of this failure to respect knowledge has both a practical and a psychological aspect. Practically, the ignorance which it entails makes religion inadequate to solve most of our concrete difficulties in life; psychologically, a man's perception that religious documents are incomplete and fallible where they pretend to be final, leads him to distrust them in their totality.

The teachings of religious books with regard to the nature and origin of the universe are now discredited for the reason that they are not based upon, and are not in harmony with, a detailed study of facts. On the other hand, the conclusions reached by science command respect not only because of the detailed and careful studies upon which they are based, but on account of the fact that from these conclusions deductions can be drawn which are verified by experience, and which assist man in the attainment of his desires. Upon every science a successful art, or *technology,* can be founded. Technology, in this sense, is the force which has made our twentieth-century civilization powerful and distinctive, but which, sad to say, threatens now to annihilate it with an efficiency surpassing that with which it was constructed. It is the advance in technology which enables us to erect structures which the great builders of the ancient world would have deemed impossible; it is technology which has increased the rate of production, which has created our systems of

transportation and communication, and has thus made possible the growth of nations and a positive, if unstable, increase in human solidarity. Even the voyage of Columbus was an application of the science of Copernicus.

Modern technology has a moral significance, or at least, moral possibilities. It has increased the number of human beings upon the earth, as well as their average length of life, but has decreased the amount of labor *per capita*. At the same time, it has provided each man, on the average, with greater means for enjoyment than was previously possible. Without modern technology—and its development of labor-saving machinery—the abolition of slavery could never have been accomplished. To increase freedom and wealth, to conserve health, and to multiply life, are moral achievements of first-rate importance.

It is characteristic of all philosophical knowledge (in the sense in which we have redefined philosophy) to have an *inductive* and a *deductive* side. The former starts with data and generates principles; the latter starts with the principles and generates detailed applicable knowledge. Knowledge as a process or function is built on the same plan as organic response; induction corresponds to the stimulation of the senses, to perception and memory; deduction to motor discharge, volition, and adapted action.

What we have said thus far appears to apply satisfactorily to physical science, mathematics and logic, and perhaps to psychology, but hardly at all to epistemology, metaphysics, and traditional ethics. There is one among this latter triad, however, viz., *ethics*, which is supposed to be *par excellence* the guide to action. Yet the fact remains that the ethics which is classified as philosophy has been singularly barren of practical results. Most existing ethical treatises inspire the serious-minded reader only with impatience and disgust, since they lack both imagination and contact with the actual spirit and difficulties of life. They are often right as far as they go, but the extent of their progress makes ridiculous the dignity which attaches to them.

The reason for this is at one with that for the weakness of crystalized religions, with which academic ethics is closely affiliated: a final system for human conduct can not be found on less than the total system of inductive knowledge. Ethical writers have attempted to found it upon isolated minutiae. The majority of these writers have spent their energies in an attempt to find out what ethics is, and what its methods of reasoning should be. This is not an ethical, but an epistemological problem, and it has not been settled by the debates of the ethicians.

IV

From this discussion there emerges the view of the practical significance of philosophy and its unity which we have been approaching. Ethics is the deductive aspect of the total system of knowledge; it is *applied philosophy,* or technology in its broadest possible aspect.

Against this definition it will be urged that certain problems have been involved in classical ethics to which no answer is given in our present system of knowledge, which is almost exclusively scientific. Science does not tell us the "meaning of good," it does not answer that persistent question as to the nature of true progress. It shows man as an organism, his place in the biological world, but as a feeling, aspiring being, his existence and relation with the whole course of nature remain unexplained.

The answer to this objection is to be found in the observation that the acceptance of the results of physical, and even of psychological, science as the final system of knowledge is a characteristic, not of philosophy, but of a religious faith called *materialism.* This faith, like other religions, adopts a portion of the truth and treats it as if it were the whole. Hence its weakness.

The presuppositions of the method of science, physical and psychological, are such that its subject-matter is limited to what appears in the *experience* of individual human beings. Science deals only with what can be seen, touched, or otherwise sensed; and there is no scientific reason for supposing that these contents of the senses, "phenomena," are identical with, or even represent, anything beyond the senses. Now, philosophy concurs with religion in its assertion that the world of pure experience is not the sum-total of reality, and that there exists a world which is not, and may never be, presented in the senses. It will probably agree also that this extra-experiential universe is one, a knowledge of which will throw light upon the so-called spiritual problems of human life; that is, it will reveal the universal background of man's conscious and desiderative nature. The methodic study of this *problem of the part of the universe which lies beyond our experience* constitutes that branch of philosophy which we call *metaphysics.*

The most characteristic attack made upon metaphysics is based directly upon this very definition of the discipline as the study of the non-experienced. It is claimed that such a study is impossible, on the ground that only experience can be known. However, the individuals who make this attack upon metaphysics are among the first to employ implicit metaphysical assumptions in their own reasoning. The explanation of this fact is easily found: one who is a metaphysician without being aware of it is unlikely to recognize

the need of metaphysics. To suppose that matter, for instance, exists apart from your or my perception of it is to make a metaphysical assumption for which pure science gives absolutely no warrant. Moreover, for me to suppose that you, as a conscious mind, and not merely as a biological object, exist, is to involve myself in a metaphysical proposition which science does not even suggest.

These statements concerning the fundamentals of metaphysics and of science have been made many times in the history of human thought, but with only a barely perceptible effect upon the progress of thought, although they contain within them conceptions which, if analyzed, could furnish the abortive branches of philosophy with the basis which they need for fruitful development. The reason for this failure is obvious. It lies not in the impossibility of metaphysics, or any especial unclearness in the situations which are involved, but in the fact that practically nobody has any vital interest in the development of a methodic knowledge of the world which is beyond our experience. We instinctively concentrate our energies upon problems which appear to have practical importance, and metaphysics appears to have none. Those who, at the present time, devote the most energy to such questions find their final reward in the attainment of an academic degree, or the fundamental satisfaction of seeing their writings in print.

The essence of what I wish to convey in this article lies in a rebuke to this assumption that metaphysics has no practical significance. Metaphysics is the broadest of the studies of reality; it involves knowledge of the totality of existence. That part of the universe which lies within, and constitutes human experience may be so small that the contents of a finished science will be reduced to negligible proportions when compared with those of a finished metaphysics. It is more likely, however, that they will unite with the latter to form one system, the original division of which resulted only from the ultimately inconsequential fact that individual human experience has indeed a small scope.

If metaphysical knowledge is practical there must exist a possibility for *applied metaphysics,* that is, there must be a branch or aspect of *technology* which can be based only upon such knowledge.

It is relevant, now, to notice that the technology which is based upon science alone has appeared thus far to be applicable only to the *details* of practical problems. For example, applied mechanics tells us how to build a bridge, but it does not tell us whether we need to build a bridge. Whether we need to build a bridge or not depends upon what we desire to accomplish, say to transport people and goods across a river. Most of us would ordinarily regard such a desire as a laudable one. However, suppose the goods to be carried

over the bridge consist of guns and explosives to be used in killing our relatives and friends. In this case we are apt to condemn the proposal to build a bridge. However, there will be disagreement on this point between our enemies and ourselves; while we condemn, they will applaud. Here is a practical problem, in order to settle which we must employ principles broader than those of mechanics. From what pure science can we derive a technology to solve it?

A conceivable reply is that economics, and sociology in general, will furnish the principles which are required, by showing not only that warlike operations destroy wealth and happiness, but by revealing the methods which must be followed to bring wealth and happiness to a maximum. There is no doubt that economics will assist us, and that from the human standpoint, the questions which it will solve are broader or more general than those settled by biology or chemistry. However, even the application of the broadest economic principles presupposes some definite fundamental *motive.* Given this motive, a completed scientific system will enable us to deduce the means by which the motive can be maximally satisfied.

Here we find ourselves face to face with the broadest of all practical problems: What shall be my life purpose? Still further: What shall be the dominant motive underlying social organization, with the limits which it imposes upon individual freedom? The world has no lack of motives. The European struggle, and the almost equally heartless competition which exists between individuals even in times of peace, is at bottom a conflict of motives. This conflict represents a very practical problem, before which the problems solvable by applied mechanics and chemistry fade into insignificance. The ultimate success of applied science presupposes the successful operation of a technology which distinguishes between motives and chooses the correct ones as ultimate ethical postulates.

In order to decide which of two conflicting motives is "correct" it is necessary to possess a definition and a criterion of the correctness of motives. This may be accomplished by selecting a *fundamental motive with which all other motives must be consistent.* That chosen by Bentham and Mill as the basis of their economic teachings was the attainment of the greatest happiness of the greatest number. The adoption of this criterion, however, appears to depend upon the assumption that this is what each individual in a society actually and fundamentally desires. That this assumption is inaccurate is obvious; an individual does not even consistently desire his own greatest happiness, and has very little regard indeed for that of others. As a matter of fact, the human race is conscious of no unitary life purpose. The choices of the individual are governed in the last analysis by interacting instinctive tendencies, all of which point biologically

to race preservation, but which with the development of civilization tend less and less to subserve this function. Gastric and erotic hunger, the fear of pain, and hatred for our rivals underlie most of our important choices.

Both religion and traditional ethics have assumed in many cases that certain kinds of metaphysical knowledge could assist man in the selection of a dominating motive. This has been the case especially with reference to the problem of personal immortality. The truth of this general assumption would mean that a technology founded on the most comprehensive of the possible branches of knowledge would provide a solution for the broadest problem of ethics. Metaphysics would thus demonstrate its utility by settling a question upon which science is silent.

If, in general, the correctness of a motive depends upon its consistency with some motive more fundamental than itself, an inquiry concerning the correctness of a maximally general human motive obviously implies that no human motive can be regarded as ultimate. The correctness of any such human motive must be judged by its consistency with a *universal motive.* To discover whether or not such a universal motive exists, and if it does in what it consists, is the fundamental task of metaphysics. Applied metaphysics would then consist in the adjustment of social and individual human purposes to this universal desiderative principle. Such a principle would provide the foundation for an ultimate definition of *progress.*

The belief in the possibility of this sort of applied metaphysics involves certain assumptions. In the first place, it presupposes that human life is a product of the nature and activity of the universe as a whole, and that the two have important common properties. Secondly, it assumes that the demonstration of the existence of a universal motive would be accepted by normal human beings as an adequate basis for the ultimate regulation of their conduct. This acceptance would be based upon the consideration that any human individual constitutes a part of the universal scheme, all of his individual motives being products, however unhappy, of the general progressive movement, so that to combat the universal motive would be to turn against the cause, the essence, and the excuse of every selfish appetite.

All this seems highly speculative and uncertain, but that further analysis would prove this appearance to be deceiving I firmly believe. To carry out such an analysis is the function of the philosophic discipline of *epistemology,* or the theory of knowledge. In demonstrating the unity and stability of philosophy as a whole, epistemology will prove: first, that the common belief in the "positive" character of scientific knowledge, as compared with meta-

physics, has no intelligent ground. This proof will show that all scientific knowledge depends upon the postulate of the "uniformity of nature," or the constancy of application of the general principles derived from the analysis of experience. This postulate has no conceivable intellectual foundation. It is actually based upon bare instinct, in which, consequently, is to be found the psychological cause of scientific positivism.

Epistemology will demonstrate, second, that any individual's belief in the existence of the mind or consciousness of any other individual can not be justified by scientific argument nor, indeed, by any other form of reasoning. The belief in "other consciousness," which has an instinctive basis as profound as that in the principle of uniformity, can be shown to constitute the fundamental postulate which, in combination with the results of science, furnishes the only necessary basis for a methodic metaphysics. The validity of the conclusions reached by science will depend upon the correctness of observations and the accuracy of the principle of uniformity. The validity of the results obtained by metaphysics will depend, similarly, upon the accuracy of its own characteristic postulate, and that of the conclusions reached by science.

To develop these conceptions in detail would be impossible in an article of this sort, so that any attempt to give them additional clarity will be foregone. The essential contention is that whatever may be the ultimate justification of what we call "common sense," its most profound attitudes provide a basis just as much for metaphysics as for science. Thoroughgoing skepticism reduces us to an intellectual state in which science seems as hopeless a task as does metaphysics. Methodic metaphysics will make no assumptions which any besides an insane or temporarily Pyrrhonistic human being would reject.

V

The essential thoughts of this article may be summarized somewhat as follows.

Modern society, although based upon a systematization of details, reveals a chaos of fundamental purposes. To prevent such a chaos is the function of religion in society. However, the European war, and the general decline in the sincerity of belief during modern times, proves that Christianity is failing to discharge this function efficiently. The consequences for the progress of civilization, and even of man as a species, may ultimately be very serious. The dominant human motives are largely instinctive, and of such a nature that when released from some synthetizing control they produce highly destructive effects.

There is reason for supposing that the weakness of extant re-

ligions lies not only in the imperfection of their creeds, but in their general contempt for any knowledge not contained in these creeds. Whatever they contain of truth would necessarily be embraced also by a universal system of knowledge, to which we apply the name "philosophy." Such a system, when brought to completion, would possess all of the important characteristics of a religion. It would be founded upon certain fundamental acts of pure faith, it would form a unitary whole, it would not only assist man to attain his purpose in life, but would show him what that purpose is. This it would do by considering the world beyond the senses as well as that of direct experience. Philosophy would differ from any existing religion in that the principles in which it demands faith are such as can not be rejected without the destruction of the possibility of all knowledge; in that, beyond these principles, its method of construction would be that characteristic of science and logic and—most imporant of all—in that, being founded on what is fundamental in belief and what is real in experience, it would command the respect of humanity.

To build up such a philosophy something is required in addition to the results of empirical science. This is *metaphysics,* a much-despised discipline which in modern discussion is often identified with the whole of philosophy. Now *ethics,* we have said, is applied knowledge, knowledge in the service of human purposes, but a technology based upon science alone possesses a fatal deficiency. While it makes possible the control of our human environment in the fulfilment of existing human motives, it offers no criterion for the correctness of these motives in themselves, and hence can furnish no grounds for the solution of the world's most practical problems. To provide such grounds, by investigating the place of human experience in the total universe of which it forms a part, is the function of metaphysics. Metaphysics is the heart of philosophy, the ultimate goal of empirical science, the final culmination of the inductive movement in knowledge, from which proceeds that deductive movement which we have identified with ethics, or with technology in the broadest sense.

Our thesis has been that such a system of knowledge is not only possible, but is absolutely essential to the world's progress and peace. Science alone can not save us; alone, it may even prove our ruin. Existing religions, full of valuable truths as they are, are yet too shallow to command lasting respect. What we need is a system of thought, filling the place now occupied by religion, but possessing the strength of science. This can only be a system of which science is itself an integral part, and in which what we know of evolution, of protoplasm, of radioactivity, electrons, and energy,

form logical steps in an answer to the child's question: "What is it all for?"

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THE OBJECT OF PERCEPTION *VERSUS* THE OBJECT OF THOUGHT[1]

INFLUENCED by pragmatism, we have become accustomed to thinking of perceptions as plans of action. As such, they are at once anticipations of motor adjustment and promises of result, pleasant or unpleasant. Although a perception is thus a plan of action it is also an interpretation in terms of past experience functioning as an ideal system. Movements are anticipated through ideas which are themselves universals and synthesize many experiences of motor adjustment; promised results take the form of ideal qualities, universal in their meaning.

But while the content of perception is ideal and thus possessed of universality, the object perceived is a particular thing existing here and now for a living individual. We assign the object of perception to a world quite different from that of our ideas; we attribute actual existence to the object we perceive. This we do because a perception is certified to at the time we experience it by objective reality. It is in fact an interpretation selected by objective reality. How, now, does reality select and thus confer objectivity upon certain of our interpretations? It does this by the control which it exercises over the movements which the interpretations instantly call forth. These are movements of adjusting the sensory apparatus, usually of sight and hearing. When these movements are permitted to proceed without hindrance and intelligence is stimulated thereby to fill out and complete the interpretation which evoked (the supplementary features being in their turn often followed by added movements which call to attention further qualities, and so on), the interpretation in question is verified; its existence as an object is perceived. When, on the contrary, the attempted movements are frustrated or prevented by objective conditions, the interpretation is rejected as invalid, the object which it supposed is proved non-existent, and another interpretation must be made.

A perception is therefore an interpretation based on past experience and inducing an immediate adjustment which if it proceeds unimpeded imparts objectivity to the interpretation. Unfamiliar objects are frequently perceived through a series of interpretations

[1] Read at the meeting of the Western Philosophical Association, St. Louis, April 21, 1916.

made under control of objective reality, each more definite than the last. When adjustments by which the living individual maintains his position are interfered with, he is forced to reinterpret his objective environment as the condition of a new adjustment. His first interpretation may be very general: he perceives "some sort of thing over there." This interpretation induces those movements of eye-muscles required to follow out with his gaze the definite outlines which such an existing object will have in contradistinction from a mere shadow. But such a vague general interpretation is only a beginning of a perception of the object. Suppose that an object has thus been perceived by me on the lower part of the table in the far corner of the room. The idea of a book first comes to my mind, but my attempt to trace the outline of the supposed book is frustrated by a sharp break on the upper edge. I think of a flat box which often sits on top of the table, but the broken line still impedes my attempted adjustment. Finally an idea of the box with the cover partly out of place occurs to me and the movements which this interpretation evokes are permitted to proceed unhindered, with the result that further details of the appearance of the box are suggested to my mind. Of course I perceive the object as a box with the cover partly off in much less time than this description consumes, but the description is nevertheless a true account of the process of perception.

We have agreed to define the perception as a plan of action involving both an anticipation of movement and a promise of satisfaction. Yet the movements by which the perception is verified are not ordinarily those which are anticipated in its meaning, nor are its qualities the results desired. The movements represented in the perception are primarily those of the whole body in appropriating the object, and the satisfactions are those expected when it is put to the use for which it is intended. The movements instantly evoked by the initial interpretation, however, are adjustments of the sensory apparatus suited to prove the existence of qualities in the object whose presence guarantees in advance of more extensive movement that the results desired will follow when these latter movements are made. Thus perception serves to forecast the results of action and thus to economize the effort of the agent. The movements by which we approach and utilize the object perceived constitute a further and more conclusive verification of the perception: the tactual sense is, as we say, the final court of appeal. But the process of verification, of realizing an ideal content, is the same in the case of action as it is in simple perception, the only difference being that as the course of action is more prolonged the essential factors are more easily discerned. The sequence of movements which idea or per-

ception suggests is actually undertaken. In case these intended movements are permitted to continue unimpeded, the qualities for which the object is desired are established and accentuated in the consciousness of the agent. It is through such interplay of movement and meaning, and this only, that an ideal content attains objective reality.

To summarize: the kind of existence possessed by the perceived object is determined by the control exercised by objective reality over human action, and, since by action is always meant the motor adjustments of an individual, the object of perception always exists at a particular time and place in an individual experience.

The thought-object, on the contrary, exists as a universal: not only has it content which is universal because ideal, but it has also existence which is universal because it generalizes individual experiences of effort and satisfaction. The concept is an identification of objects which play a similar part in all human conduct. The relations which constitute the meaning of such concepts are of two kinds because the functions which objects discharge in voluntary action are of two main sorts. Such objects are either links or steps in sequences of movement or else they are sources of satisfaction. Conceptual objects are therefore possessed either of spatial attributes, and thus subject to mechanical causation, or of the properties of freedom and inner development. The meaning of most common concepts (chair, table, house, etc.), is constituted by both these types of relation: they are at once extended objects having location, size, shape, etc., depending in their construction and use upon definite kinds of motor adjustment, and also objects of value having many possibilities of use and promising a variety of satisfactions. Systematic thought, however, tends to distinguish ever more sharply between these two kinds of meaning, separating mechanical concepts from concepts of value. Natural science eliminates all secondary qualities from the physical world and conceives it entirely in terms of motion, and materialistic philosophy endeavors to expel the teleological principle from the domain of thought altogether. Religious thought, on the other hand, seeks to subordinate matter and mechanism to purpose and freedom, while idealistic philosophy attempts to organize all objects of thought within the unity of a single comprehensive purpose.

But how, one may ask, do concepts gain objectivity? They claim to be true, to agree with reality. Are our thoughts subject to any control comparable to that exercised by objective conditions over our movements. Such control, or one analogous to it, is exercised over our thinking, by the accepted body of knowledge. This sums up and systematizes man's experiences of pursuit and attainment;

it rests ultimately upon the direct verification which the ideas of individuals receive in perception and action. Accepted knowledge requires all thoughts to be consistent with itself if they are to share its objectivity. Such consistency is tested in different ways. The thought in question may be identical with an idea already verified in points so essential that the realization of the former is imagined in so vivid and convincing a fashion as to impart to it objectivity. More commonly the system of generally accepted knowledge controls the thinking of individuals through the instrumentality of the speech-mechanism. Accepted truth is formulated in discourse, oral and written, and received by the individual through social heredity. Every new thought he must put in words; every new conception he must define in language. If knowledge already formulated offers no hindrance to the new proposition by contradicting wholly or in part, but rather, by implication, gives it support, it is also accepted as true. In case contradiction or confusion does arise, of course the idea is rejected.

Thought-objects are generalized experiences of action or appreciation; their universality is based upon the unity of will characteristic of all human individuals. Thought represents objects that are possible of realization by all voluntary agents. In the nature and workings of volition, therefore, we find the desired explanation of the opposition between conception and perception, thought and existence. To the regular operation of will two activities are essential. First, a choice must be made among ends in accordance with the promise of satisfaction they severally hold forth. Objects when thus considered as ends are conceived, being the generalized results of past experience, individual and racial, and involving conceptions of movement and result. They are also ideal in the sense of being non-existent, because out of harmony with the actual motor adjustment of the individual. If such an end, once chosen, is to be realized, the second power essential to the operation of volition must be exercised. The sequence of movements believed necessary for the realization of the object must be actually initiated and carried through. Only such movements can be made as objective reality permits, and these movements transform the chosen end from a mere idea into an existing object in case they succeed in finally bringing about such a harmony between the motor adjustments of the agent and the qualities he desires to experience that the movements actually at his command are such as maintain and intensify these qualities in his consciousness. In this unique experience of satisfaction or fulfilment an idea which in its meaning gives expression to the unity and freedom of personal volition acquires objectivity because it is brought into definite connection with the system of movements which the

agent is permitted to make, and is thus constituted a point of departure for the direction of further movements. When in this way an object is once realized through activities that can be observed, remembered, and described, it can be re-experienced at will by human individuals. It is consequently given a place in the objective order, the world that exists for all voluntary agents. This actual world is a conceptual system; the objects which compose it are universals because they represent possibilities of realization for all human individuals. The realization of an end involves, as we have seen, the cooperation of the two activities of selection and movement. The two fundamental types of relation by which experiences are correlated and given meaning as objects of thought are those of mechanism and teleology. If we add to these the principle of identity based upon the underlying unity of volition itself, we have the three fundamental thought-forms or categories.

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PURPOSE, CHANCE, AND OTHER PERPLEXING CONCEPTS

IN a recent note on my discussion of the entelechial interpretation of purpose,[1] Professor Lawrence J. Henderson appears to rest his own theory of teleology on the "uniqueness" of a certain ensemble of physical and chemical characteristics of the three elements which figure most prominently in organic compounds. It was against this very type of argument that my criticism was directed. In medieval science this mode of reasoning was common enough. The circle is a unique figure; hence the planets *must* move in circles. Seven is a unique number—the highest prime under ten; hence, there must be seven planets; there can be no more, no less. With all due appreciation of Professor Henderson's wide knowledge of chemistry and physics, it would seem that he has selected a lot of striking characters, enumerated them, called the combination "unique," and from this has argued to a teleological view of the universe.

Against this conclusion it may be urged, (1) that "uniqueness" of itself carries little weight, since there are hundreds of "unique" combinations of properties in the world, some of which are important, others not. (2) That the *value* of the "unique" combination of characteristics which Professor Henderson has studied can only be determined by making a corresponding study of the *unfit* characteristics which go with them. This would furnish the denominator of the fraction whose numerator Professor Henderson has (I believe) very fairly evaluated.

[1] This JOURNAL, Vol. XIII., pp. 325 ff.

Professor Jared S. Moore points out in a note[2] a confusion due to my use of the word *chance* in two distinct senses. (1) When we speak of the two alternatives "design" and "chance," the latter is generally understood to mean either an uncaused result or at least unregulated causation. (2) The notion of *chance variation* in the natural selection theory is somewhat different. When one meets a friend "by chance" we suppose two separate series of events, each of which by itself is causally determined; but the conjunction of the two series at this particular point is not the result of either set of causes. This is, I believe, a legitimate scientific use of the term *chance*. The variations in plants and animals which natural selection works upon are of this sort. Each parental germ-cell is causally determined; the combination of characters in the offspring, though fully "determined," is nevertheless a "chance occurrence" in this sense.

Professor Moore's criticism of my ambiguous use is justified, but I can not agree with the deduction which he draws. Use two words instead of the single word *chance*, or spell Chance with a capital in the first sense, and his objection to admitting that science is the final arbiter in interpreting purpose seems to disappear.

In the judgment of certain other critics my examination of teleology fails to take into account a third alternative cherished by many philosophers, an interpretation which is *neither* entelechial nor mechanistic. Possibly they are correct. Despite many earnest endeavors I have never succeeded in mastering any "philosophical" exposition of teleology from Kant to Bosanquet that has come to my attention. Might it not be worth while for some philosopher to write a "primer" of teleology from this standpoint, for the benefit of the plain every-day scientist who is interested in the problem?

Meanwhile it would seem desirable for mechanistic scientists to avoid using the term *teleology* in their expositions on account of its ambiguity. Till recently I believed it to be a proper equivalent for *the science of purpose*. It appears to be used also to include *harmony* and *trend*, which are quite different concepts and should not be confused with purpose.

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REVIEWS AND ABSTRACTS OF LITERATURE

The Circulation and Sleep: Experimental Investigation Accompanied by an Atlas. JOHN F. SHEPARD. New York: The Macmillan Company. 1914. Pp. ix + 83.

The author of this work measures the blood supply sent to the brain

[2] This JOURNAL, Vol. XIII, p. 158.

during sleep, in order to determine, if possible, whether sleep is due to anemia, hyperanemia, or to some other cause. He believes that the most accurate method of studying cerebral circulation "is to obtain a record of brain volume together with tracings of general arterial pressure, and in some cases a venus pulse."

Two normal male subjects were employed; one of them had been trephined over the right ear, the other on the right side of the forehead. Besides obtaining objective records of the volume of the brain, of the volume of the periphery (hand or foot), as well as curves of breathing, blood pressure, heart rate, transmission time of pulse wave over the body, and of the jugular pulse, the experimenter asked his observers to give a careful introspection whenever they woke during the experiment or at the end of it.

The major part of the monograph is devoted to a detailed explanation of the plethysmographic tracings, which come separately bound and comprise the Atlas.

The main results of the investigation, however, may briefly be summed up as follows: In all positions of the subjects, and whether sleep came rapidly or slowly, there was a marked increase of the volume of the brain as sleep came on. This increase was greatest from fifteen to twenty-five minutes after the subjects had fallen asleep and thereafter it diminished somewhat, but always during sleep the brain volume remained greater than during wake. The absolute values of the volume-changes were between 0.3 cu. cm. and 0.7 cu. cm. Weak stimuli given during sleep caused a fall of the brain volume, but stimuli given during waking caused an increase thereof (p. 37). Waking brings a fall in brain volume, and in general a reverse of the conditions occasioned by sleep. Shepard also noticed that when stimuli were given to the sleeping subject, the responses, as indicated by the tracings from the brain, were perceptibly delayed. Whence he concludes: "There are very definite indications that the circulation change lags behind the mental process" (p. 38).

In view of his findings Shepard declares that the anemia theory of sleep can not be accepted. Neither is sleep due to a separation of dendrites and axons occasioned by the expansion of the cerebral vessels, since there is a similar expansion of these vessels when the subject is stimulated in the waking state. Moreover, the circulation change lags behind the mental process, therefore the relaxation of the brain vessels with sleep and their constriction with waking must be regarded as an effect, not as a cause, of sleep.

Though it is true that sleep may be facilitated by habit, "that one may learn to sleep best in a given environment," just as one learns to attend actively, still this does not always mean that sleep is promoted by withdrawing from external stimuli (p. 77).

What, then, is sleep, and what is it produced by? When sleepiness is analyzed introspectively, says Shepard, it is usually described as "a yielding to the force of gravity," "yielding to heaviness," "becoming lost in rest sensations." These "rest" sensations seem to come from all the muscles of the body; and that is the most noticeable fact about the process

of going to sleep. In short, as we fall asleep "we become absorbed in a mass of fatigue sensations" which tend slowly to inhibit other processes, especially motor activity (p. 78). Sleep, then, "consists of a group of sensations of fatigue or rest, . . . sleep itself is a more complete rest," and "the process is a dominance of an organized group of these sensations."

The work is a valuable contribution to the literature of this little understood problem. It shows much ingenuity in technique, and therefore should be very suggestive to physiological psychologists. As the title indicates, it is an investigation that offers more to physiology than to psychology. The only distinctive psychological proposition is the denial of the anemia theory of sleep and the affirmation of the view that sleep is a complex of "fatigue or rest sensations" which inhibit all motor activities and particularly strain sensations.

To speak of sleep, however,—of the bodily state in which all consciousness is lost—as a group of "rest sensations" is equivalent to talking about an unconscious consciousness. A sensation is a mental process, and dreamless sleep is the arrest or the non-existence of all conscious processes; therefore, sleep can not be the "dominance of an organized group of these (rest) sensations." But suppose we assume that Shepard refers to these fatigue sensations as existing only during the process of going to sleep (which is very true), and that they disappear the instant the subject has thoroughly gone to sleep. What is it that keeps the individual in the sleeping state? We should suppose that with the disappearance of these fatigue sensations—these inhibitors—from consciousness, the motor activities which they inhibited a moment ago would pop up again, and the subject would be awake once more.

This subject might have been discussed more fully. It is possible, however, that Shepard will agree with some such view as the following: The fatigue sensations not only inhibit motor activity, but also establish a certain amount of sensorial inertia, *i. e.*, they raise the sensory threshold. The inhibited state of the sensory and motor centers constitutes sleep. Then the continuation of the "rest" or "fatigue" sensations is not necessary to keep these centers in a state of inhibition, for this is maintained by the sensorial inertia that has been established in the first instance. Hence a stimulus of a more intense nature than will ordinarily affect consciousness is required to wake a sleeping individual.

The sensorial inertia view seems to be supported by one of Shepard's own findings. Whenever a stimulus was given to the sleeping agent, there was a considerable delay before the plethysmograph recorded a change in the brain volume. This, the author says, shows that the circulation change lags behind the mental process. But why bring in the term "mental process"? All that the records show is a temporal difference between the application of the stimulus and the circulation change in the brain. May it not be likely that this delay measures the time that it takes a stimulus of the kind given to overcome the sensory inertia?

At this point, however, it will be asked: Suppose sleep is a state that is synonymous with inhibited motor activity, and suppose this state of inhibition is maintained or guarded by the raised sensory threshold, how then

does the sleeping subject manage to wake naturally, *i. e.*, of his own accord? It may be answered: first, the stimuli of the dawn—light, sound, etc., are, as a matter of fact, more intense than those that prevail at night; and secondly, there is a radical change in, usually an intensification of, the organic sensations, that overcomes sensorial inertia.

It may also be asked whether the author disproves the view that sleep is produced by and consists of a separation of the dendrites and axons. The evidence he presents against this theory is that there is an increase of brain volume when the individual is stimulated in the waking state, by a drug or what not, and he does not, of course, collapse in sleep. But this argument assumes that there exists a causal relation between the increase of brain volume and the contraction or the separation of the dendrites and axons. No evidence in support of this view is presented.

The author declares that the utility of the relaxation of the brain vessels during sleep "may be that the effective building up of energy-giving substance in the brain requires greater circulation than is demanded by other parts" (p. 78). This is no doubt true. In this connection, however, it might have been worth while to study the brain volume in artificial sleep, *i. e.*, sleep produced by drugs and hypnotism. It is often claimed that artificial sleep is not restful or recuperative. Comparing the blood volume in the brain during the two kinds of sleep might have thrown some desired light on this subject.

It is obvious, however, that too great demands can not be made on observers in experiments that are so taxing as these. The author is to be congratulated on the neatness of the records that comprise the Atlas.

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War and the Ideal of Peace. A Study of those Characteristics of Man that Result in War, and of the Means by which they may be Controlled. HENRY RUTGERS MARSHALL. New York: Duffield and Company. 1915. Pp. 234.

"As long as human nature remains what it is, wars will occur" says many a "practical" man. That human nature will, as a matter of fact, remain what it is he takes for granted. In this assumption he appears to have the support of biology and psychology. For does not war proceed from our instincts, which are the deepest-rooted parts of our nature, and is our nature anything more than a part of the general system of nature with its universal laws? How can the outlook, then, be anything but depressing for those who feel the horror of the present situation?

The main problem of Dr. Marshall's book concerns the validity of the supposedly scientific belief that since war is an expression of our nature and therefore of natural law, it must be expected to recur again and again indefinitely. This is not an isolated question. It involves the whole problem of the relation of ideals to natural law. The author accepts without qualification the assumption that war does express our nature, and that our nature is part and parcel of the natural order that the sciences endeavor to describe in purely mechanistic terms. He denies,

however, that the universality of law, or determinism, implies any set of fatalistically fixed outcomes. Fresh creations, reversal of tendencies, unprecedented products may well occur within a system of universal law. At the points in our experience where ideals are born, whether in cool reflection or in sudden intuitions, we seem to be participating in actual creation. And this is more than seeming. Ideals are not mere reflections of the past or transcripts of the present; they are, in very deed, new creations. Here nature takes exception to itself, as it were, and begins to reverse or redirect some of its procedures. Creativeness could be asserted merely from the existence of the ideal as an idea; but ideals do not stop here—in some measure they secure their own realization. It is a historical fact that men have progressively restrained and redirected their instincts. Human nature does not remain the same; it remakes itself.

Herein Marshall sees no exceptional fact, but a general quality of the universe. The psychic interpretation that we give to the reactions of our neighbors and of animals can not be withheld from plants or from any part of nature. Our ideal strivings are only vivid instances of a creativeness that goes on at some rate, perhaps slowly, even in the inorganic realm. Yet the coincidence of law and creation does not imply any fatalistic certainty that ideals will prevail. Things acquire moral quality because we will have it so. War will become immoral only when we repeatedly and persistently insist that it shall be so. For a few centuries —only a yesterday as measured by cosmic standards—we have been putting a moral issue into this phase of nature. War has been mitigated; its occasions have been more and more avoided; more sorts of war have been brought under condemnation. The final cessation of war is to be sought, Marshall thinks, partly by condemning it altogether, and hence risking attacks for which we may not be fully prepared.[1]

The discipline of our pugnacious instincts must be carried out, the author thinks, individual by individual. It must be self-discipline fostered by carefully planned systems of education. He is under no illusions as to the magnitude of such a task. No political device, no international conventions can abolish war. Its roots in individual minds, official and unofficial, must be reached. National covetousness, lust of power, the secret enjoyment of fights and violence must be overcome. We must stop inculcating the fighting spirit in boys, abolish competitive games that, like football, depend upon physical combat, and we must cultivate humane sentiments and the spirit of religion (here defined, as in his "Instinct

[1] On this point Marshall is so brief that his meaning appears not to be quite clear. National disarmament is made parallel to the already accomplished disarmament of individuals. But the reverse side of disarming individuals is the creation of a police power for the enforcement of the individual's rights. Whether the road to national disarmament involves the creation of a parallel international police ready to use force to maintain rights, we are not told, or whether the use of force under such conditions is to be construed as war. Again, Marshall seems to argue for reduction of armament in the United States on the ground that if we are alert we can assemble sufficient power for defense when the emergency arises. This hardly looks like a condemnation of all war.

and Reason," as a contentless self-restraint that gives conscience a chance to be heard).

This is sturdy ethical idealism. It should sustain the spirit of many whose confidence in human nature has been undermined by the present war. But most noteworthy of all, I should say, is the turn here given to the theory of creative evolution. It is probably because of the affinity of his position with that of Bergson, as well as because of contrast in the grounds for it, that Marshall feels himself to be in opposition to the French philosopher. Marshall's emphasis is primarily upon direct experience of the ideas that we call ideals, and secondarily upon the observed efficiency of ideals in the natural order. The doctrine that creativeness is here experienced and observed is, of course, not new. What is fresh, even if it is not unprecedented, is the setting given to this doctrine in modern psychology and in a strictly scientific view of natural law.

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UNION THEOLOGICAL SEMINARY.

JOURNALS AND NEW BOOKS

THE PHILOSOPHICAL REVIEW. March, 1916. *Philosophy and Common Sense* (pp. 103–120): A. C. ARMSTRONG.–The origin of philosophical ideas in popular thinking has often been a matter of discussion. Less attention has been given to the influence of philosophy on common sense, for philosophy is involved in the genesis of common sense. "The speculative results of one generation have become the common inheritance of later times," as, for example, the principle of the uniformity of nature, the distinction between mind and body, and the theory of evolution. The influence of philosophy in molding the environment is constitutive of the philosopher's chief reward. *The Parmenides of Plato* (pp. 121–142): PAUL E. MORE.–A classified survey of the many interpretations of the "Parmenides," followed by the author's own view. The main purpose of the "Parmenides" was "to bring relief to Plato's own doctrine of Ideas." The aim is to save the Parmenidean unity from Eleatic and Megarian eristic, according to which both the existence and the non-existence of the one lead to equally absurd contradictions. Thus the reality of Ideas is independent of eristic. *Reason and Feeling in Ethics* (pp. 143–167): A. K. ROGERS.–Starts from Mr. G. E. Moore's thesis that the concept of the "good" is "ultimate and *sui generis*." Defines the good as "that which reveals a capacity, on reflection, for calling forth my approval; and that the only thing which I find common to the various object of approval is the ability to give satisfaction, or pleasure." Thus, in addition to a feeling of satisfaction, there must enter a judgment of approval, and this is an intellectual matter. There follows a detailed analysis of the conditions and basis of "approval." *Proceedings of the American Philosophical Association; The Fifteenth Annual Meeting, University of Pennsylvania, December 28–30, 1915* (pp. 168–181): Brief notices and short

abstracts of important papers. List of Members. *Reviews of Books:* Anthony, Earl of Shaftesbury, *Second Characters, or the Language of Forms*, Edited by Benjamin Rand: ERNEST ALBEE. Herbert L. Stewart, *Nietzsche and the Ideals of Modern Germany:* FRANK THILLY. Hans Driesch, *The Problem of Individuality:* CHARLES H. TOLL. Wilhelm Windelband, *Einleitung in die Philosophie:* EDWARD L. SCHAUB. *Notices of New Books. Summaries of Articles. Notes.*

Johnston, G. A. An Introduction to Ethics. London and New York: The Macmillan Company. 1915. Pp. x + 254. 3s.

Lyon, Darwin Oliver. The Relation of Quickness of Learning to Retentiveness. Archives of Psychology, Number 34. Edited by R. S. Woodworth. New York: The Science Press. 1916. Pp. v + 60.

Morgan, John J. B. The Overcoming of Distraction and Other Resistances. Archives of Psychology, Number 35. Edited by R. S. Woodworth. New York: The Science Press. 1916. Pp. iii + 84.

Richardson, Robert P. and Landis, Edward H. Numbers, Variables, and Mr. Russell's Philosophy. Chicago and London: The Open Court Publishing Company. 1915. Pp. 33.

NOTES AND NEWS

SIGNOR LEONARDO BIANCHI is a member of the new Italian ministry as a representative of the party he leads—that of the Constitutional Democrats. He is professor of psychiatry in the University of Naples and director of the university clinic for nervous and mental diseases, and it is understood that he will devote himself to hygienic and social problems arising out of the war.

GEORGE ORDAHL (Ph.D., Clark University), formerly professor of psychology and education at the University of Nevada, and for one year state psychologist, Lincoln, Illinois, now connected with the Buckel Foundation for the study of backward and defective children, Stanford University, has been appointed psychologist and educational director of the Sonoma State Home, Eldridge, California.

THE mathematicians of the Scandinavian countries, including Finland, will hold a reunion at Stockholm, from August 30 to September 2. The International Congress of Mathematicians was to have been held there at this time, but European conditions have rendered such a meeting impossible, and this reunion therefore serves as a partial substitute.

PROFESSOR MARY WHITON CALKINS, of Wellesley College, has been appointed lecturer on the Mills Foundation in the department of philosophy of the University of California for the half year ending December 31, 1916. This lectureship was held for the past year by Professor George H. Palmer, of Harvard University.